



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/620,597

07/17/2003

Seiji Hachisuka

1720.1003

9291

21171 7590 07/19/2007
STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER

DEB, ANJAN K

ART UNIT

PAPER NUMBER

2858

MAIL DATE

DELIVERY MODE

07/19/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/620,597	Applicant(s) HACHISUKA ET AL.	
	Examiner Anjan K. Deb	Art Unit 2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06/05/2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 2-10 and 12-26, 28,29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,11,27 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to amendment after non-final action filed 06/05/2007.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 11, 27 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Holmquest (US 5,619,105 A).

Re claims 1 and 30, Holmquest discloses current detection method of an inverter (Fig. 1) that converts DC input (output of rectifier) into AC output (column 3 lines 10-14) and supplies the AC output to a load (load transformer, ballast circuit) (column 2 lines 59-63, column 3 lines 18-20) comprising: allowing magnetic flux change occurring to a circuit (inherent to flux change in transformer T5 due a change in circuit current) to act on a detecting conductor (the conductor passing through toroid T5 core shown as LAMP LEADS in Fig. 2) and detecting the change in the current through the medium of the magnetic flux change (magnetically detecting)(column 3 line 41) by the detecting conductor. Holmquest further disclosed that as an alternative to the toroid T5 discharge (arc) detection could be accomplished by a detection conductor (additional winding) closely coupled to circuit wiring (the ballast output winding)(column 3 lines 37-39, 52-

Art Unit: 2858

55). Detection of circuit current due to discharge has been broadly interpreted as the detection of arcing current disclosed by Holmquest.

Re claims 11 and 27, Holmquest disclosed all of the claimed limitations as set forth above including detecting of the change in the circuit current whether or not anomaly exists in a current route including the load. Whether or not anomaly exists in a current route including the load is broadly interpreted as the arc detection disclosed by Holmquest by magnetically detecting arcing current in a current route including load (load transformer and ballast circuit) (column 3 lines 40-42, 52-55).

Response to Arguments

4. Applicant's arguments filed 06/05/2007 have been fully considered but they are not persuasive.

Regarding rejection of claims 1, 11 and 27 under 35U.S.C. § 102 as anticipated by Holmquest (US 5,619,105) applicant has amended the claims 1, 11, and 27 and added new claim 30 and argued that Holmquest do not teach or suggest a structure allowing magnetic flux change occurring in a circuit wiring to act on a detecting conductor in the vicinity of the circuit wiring (see applicant's REMARKS page 8 paragraph 5 last sentence). As detailed in the office action above Holmquest clearly disclosed this feature.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Beland (US 6,111,732) disclosed apparatus for detecting current by measuring voltage drop across a sense resistor.

Meyer (US 5,652,521) disclosed detecting conductor 30 located in the vicinity of circuit 22 for detecting current in circuit (Fig. 3).

Iijima (US 6,252,409 B1) disclosed detector 10 comprising a coil (Fig. 3) located in the vicinity of circuit 12 for detecting current in the circuit 12 (Fig.1).

Kazama et al. (US 7,098,677 B2) disclosed method and device for measuring current in circuit 1 comprising a probe 10 including antenna 11 located in close vicinity circuit of 1 (Fig. 1A).

Art Unit: 2858

Miyata (US 5,903,159) disclosed conductor 3 (antenna) for detecting discharge faults in circuit 2 (Fig. 1).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Anjan K. Deb whose telephone number is 571-272-2228. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew H. Hirshfeld can be reached at (571) 272-2168.

Anjan K. Deb, P.E, Ph.D.

Tel: 571-272-2228

Primary Patent Examiner

E-mail : anjan.deb@uspto.gov

Art Unit: 2858

7/15/07